

Attorney Docket No.: 11872/022001
 Client Ref.: 30-4016 US REISSUE

J1046 U.S. PTO
 09/779877
 02/06/01



**REISSUE APPLICATION DECLARATION AND POWER OF ATTORNEY
 BY THE INVENTORS**

As the below named inventors, we hereby declare that: our residence, post office address and citizenship are as stated below next to our names, we believe we are the original, first and sole inventors of the subject matter which is described and claimed in Letters Patent Number 5,868,123 entitled **MAGNETIC CORE-COIL ASSEMBLY FOR SPARK IGNITION SYSTEMS**, issued on February 1, 1999, attached hereto, and for which invention we solicit a reissue patent.

ACKNOWLEDGMENT OF REVIEW OF PAPERS AND DUTY OF CANDOR

We hereby state that we have reviewed and understand the contents of the attached specification, including the claims, and including the new claims 8-18 attached hereto, which are referred to in detail below.

We acknowledge the duty to disclose information which is material to the patentability of this application, namely, information that a reasonable Examiner would consider important in deciding whether to allow the application to issue as a patent as set forth in 37 C.F.R. §1.56.

PRIORITY CLAIM

We hereby claim priority benefits under Title 35, United States Code, §119(e) of U.S. provisional application no. 60/004,815 filed on October 5, 1995.

**STATEMENT OF INOPERATIVENESS OF ORIGINAL PATENT
 37 CFR 1.175**

We believe that U.S. Patent No. 5,868,123 is partly inoperative because it claims less than we had the right to claim. In particular, issued independent claim 1 appears as follows:

February 1, 2001

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1. A magnetic core-coil assembly for generating an ignition event in a spark ignition internal combustion system having at least one combustion chamber, comprising a magnetic core that is iron-based and further comprises metallic elements including nickel and cobalt, glass forming elements including boron and carbon, and semi-metallic elements, including silicon, said core being fabricated by heat treating an amorphous magnetic alloy and having a primary coil for low voltage excitation and a secondary coil for a high voltage output to be fed to a spark plug, said core-coil assembly having the capability of
 - (i) generating a high voltage output in the secondary coil within a short period of time following excitation thereof, and
 - (ii) sensing spark ignition conditions in the combustion chamber to control the ignition event.

The underlined portion of claim 1, above, unnecessarily limits our invention to an iron-based magnetic core that includes metallic elements including nickel and cobalt, glass forming elements including boron and carbon, and semi-metallic elements, including silicon, the core being fabricated by heat treating an amorphous magnetic alloy. We have been informed that the underlined limitations were added to claim 1 in response to the Office Action dated March 31, 1997, to distinguish our invention from prior art cited by the United States Patent and Trademark Office. However, such a limitation was not necessary because claim 1 did not require such an amendment to overcome the cited prior art. This limitation of claim 1 was made with the mistaken belief that it was necessary, and this mistake occurred because we (the inventors) were not consulted while the application was pending in the United States. Claims 2 through 7 of U.S. Patent No. 5,868,123 all depend on claim 1, and thus also are partially inoperative for the same reason.

The mistake concerning claim 1 was first discovered by an employee of our company in approximately late May or June of 2000, during a review of the claims that issued in this case. At that time, the employee spoke to Ryusuke Hasegawa, the named inventor on the patent, who was surprised that claim 1 included such limitations. The employee prepared some proposals for rewording the claims and contacted applicants' attorney in late August 2000. Applicants' attorney then contacted Ryusuke Hasegawa and further discussed claim 1 in relation to the cited prior art. A determination was then made by the attorney that claim 1 of U.S. Patent No. 5,868,123 is too narrow. New

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claims that do not include all of the underlined verbiage, but that include several other limitations, were suggested to distinguish the invention from the cited prior art. Consequently, this reissue application contains new claims 8-18 which are discussed in detail below.

New independent claim 8, appearing below, recites that the core comprises an amorphous metal but otherwise does not include any part of the underlined limitations of claim 1 as set forth above. Claim 8 recites different limitations relating to the amorphous metal core "...being non-gapped, and having a permeability ranging from about 100 to 300.". These limitations are not present in claim 1, and thus claim 8 is of different scope. Claim 8 more particularly points out and distinctly claims our invention, distinguishes our invention over the cited prior art, and should have been part of our patent. This error occurred without deceptive intent. Claim 8 recites:

8. A magnetic core-coil assembly for generating an ignition event in a spark-ignition internal combustion system having at least one combustion chamber, comprising a magnetic core having a primary coil for low voltage excitation and a secondary coil for a high voltage output to be fed to a spark plug, the core comprising amorphous metal, being non-gapped, and having a permeability ranging from about 100 to 300, said core-coil assembly having the capability of (i) generating a high voltage in the secondary coil within a short period of time following excitation thereof, and (ii) sensing spark ignition conditions in the combustion chamber to control the ignition event.

Claims 9-12 attached hereto either directly or indirectly depend on claim 8, are allowable for at least the same reasons, and more particularly and distinctly claim our invention. These claims should have been part of our patent but for the error explained above. These errors occurred without deceptive intent.

New independent claim 13, appearing below, recites that the core is an iron-based amorphous metal that is heat treated, but otherwise does not include any other part of the underlined portions of claim 1 appearing above. Claim 13 recites instead that the amorphous metal core is "...heat treated to have a permeability ranging from about 100 to 300.". Since this limitation is not present in claim 1, claim 13 is of a different scope. Claim 13 more particularly points out and distinctly claims our invention, distinguishes

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13. A magnetic core-coil assembly for generating an ignition event in a spark-ignition internal combustion system having at least one combustion chamber, comprising a magnetic core having a primary coil for low voltage excitation and a secondary coil for a high voltage output to be fed to a spark plug, the core comprising iron-based amorphous metal heat-treated to have a permeability ranging from about 100 to 300, said core-coil assembly having the capability of (i) generating a high voltage in the secondary coil within a short period of time following excitation thereof, and (ii) sensing spark ignition conditions in the combustion chamber to control the ignition event.

New claim 14 directly depends on claim 13, is allowable for at least the same reasons, and more particularly and distinctly claims our invention. This claim should also have been part of our patent but for the error explained above. This error occurred without deceptive intent.

New independent claim 15, appearing below, recites that the core is of iron-based amorphous metal, but otherwise does not include any other part of the underlined portions of claim 1. The core of claim 15 is: "...non-gapped," and because the limitation of a non-gapped core is not present in claim 1, claim 15 is of a different scope. Claim 15 particularly and distinctly claims the invention, distinguishes our invention over the cited art, and should have been part of the patent. This error occurred without deceptive intent. Claim 15 recites:

15. A magnetic core-coil assembly for generating an ignition event in a spark-ignition internal combustion system having at least one combustion chamber, comprising a magnetic core having a primary coil for low voltage excitation and a secondary coil for a high voltage output to be fed to a spark plug, the core comprising iron-based amorphous metal and being non-gapped, said core-coil assembly having the capability of (i) generating a high voltage in the secondary coil within a short period of time following excitation thereof, and (ii) sensing spark ignition conditions in the combustion chamber to control the ignition event.

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New claim 16 depends on claim 15 and is allowable for at least the same reasons. In addition, claim 16 more particularly and distinctly claims our invention and should have been part of our patent, but for the error explained above. This error occurred without deceptive intent.

New independent claim 17, appearing below, recites that the core comprises an iron-based metal which is recited in claim 1. But claim 17 also recites that the core "...having a permeability ranging from about 100 to 300.". This limitation is not present in claim 1, and therefore claim 17 is of a different scope. Claim 17 more particularly points out and distinctly claims our invention, and distinguishes our invention from the cited prior art. Claim 17 should have been part of our patent and this mistake occurred without deceptive intent, as explained above. Claim 17 recites:

17 A magnetic core-coil assembly for generating an ignition event in a spark-ignition internal combustion system having at least one combustion chamber, comprising a magnetic core having a primary coil for low voltage excitation and a secondary coil for a high voltage output to be fed to a spark plug, the core comprising iron-based amorphous metal and having a permeability ranging from about 100 to 300, said core-coil assembly having the capability of (i) generating a high voltage in the secondary coil within a short period of time following excitation thereof, and (ii) sensing spark ignition conditions in the combustion chamber to control the ignition event.

New claim 18 depends on claim 17 and should be allowable for at least the same reasons. Claim 18 more particularly and distinctly claims our invention and thus should have been part of our patent. Due to the error explained above, claim 18 was not included, and this error occurred without deceptive intent.

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POWER OF ATTORNEY

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John B. Pagram, Reg. No. 25,198
Frederick H. Rabin, Reg. No. 24,488
Stephan J. Filipek, Reg. No. 33,384
Samuel Borodach, Reg. No. 38,388
Richard P. Ferrara, Reg. No. 30,632
Andrew N. Parfomak, Reg. No. 32,431
Fish & Richardson P.C.
45 Rockefeller Plaza
Suite 2800
New York, NY 10111

We hereby declare that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

BY THE INVENTORS

Full name of inventor Ryusuke Hasegawa

Inventor's signature Ryusuke Hasegawa

Date 08 FEB 2001 Country of Citizenship United States

Residence 29 Hill Street, Morristown, NJ 07967

Post Office Address (Same as Above)

Attorney Docket No.: 11872/022001
Client Ref.: 30-4016 USA

Full name of inventor John Silgailis

Inventor's signature _____

Date _____ Country of Citizenship United States

Residence 1 Maija 6/12, Emburga LV 3045, LATVIA

Post Office Address (Same as Above)

Full name of inventor Donald Allen Grimes

Inventor's signature _____

Date _____ Country of Citizenship United States

Residence 126 W. McPherson Avenue, Findley, OH 45840

Post Office Address (Same as Above)

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New claim 18 depends on claim 17 and should be allowable for at least the same reasons. Claim 18 more particularly and distinctly claims our invention and thus should have been part of our patent. Due to the error explained above, claim 18 was not included, and this error occurred without deceptive intent.

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Frederick H. Rabin, Reg. No. 24,488
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Richard P. Ferrara, Reg. No. 30,632
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Fish & Richardson P.C.
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Suite 2800
New York, NY 10111

We hereby declare that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

BY THE INVENTORS

Full name of inventor Ryusuke Hasegawa

Inventor's signature _____

Date _____ Country of Citizenship United States

Residence 29 Hill Street, Morristown, NJ 07967

Post Office Address (Same as Above)

Attorney Docket No.: 11872/022001
Client Ref.: 30-4016 USA

Full name of inventor John Silgailis

Inventor's signature _____

Date _____ Country of Citizenship United States

Residence 1 Maija 6/12, Emburga LV 3045, LATVIA

Post Office Address (Same as Above)

Full name of inventor Donald Allen Grimes

Inventor's signature Donald Allen Grimes

Date 7 February 2001 Country of Citizenship United States

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30-4016 ✓
UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
ASSISTANT SECRETARY AND COMMISSIONER
OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

AUGUST 04, 1997

PTAS

ERNEST D. BUFF
P.O. BOX 2245
101 COLUMBIA ROAD
MORRISTOWN, NJ 07962



100450300A

UNITED STATES PATENT AND TRADEMARK OFFICE
NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT DIVISION, BOX ASSIGNMENTS, NORTH TOWER BUILDING, SUITE 10C35, WASHINGTON, D.C. 20231.

RECORDATION DATE: 06/30/1997

REEL/FRAME: 8583/0405

NUMBER OF PAGES: 6

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:
HASEGAWA, RYUSUKE

DOC DATE: 06/26/1996

ASSIGNOR:
SILGALLIS, JOHN

DOC DATE: 06/26/1996

ASSIGNOR:
GRIMES, DONALD ALLEN

DOC DATE: 06/26/1996

ASSIGNEE:
ALLIEDSIGNAL INC.
P.O. BOX 2245
101 COLUMBIA ROAD
MORRISTOWN, NEW JERSEY 07962

SERIAL NUMBER: 60004815
PATENT NUMBER:

FILING DATE: 10/05/1995
ISSUE DATE:

30-4016 USA

SHIRLIE SIMON, EXAMINER
ASSIGNMENT DIVISION
OFFICE OF PUBLIC RECORDS

07-07-1997

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Patent and Trademark Office

RECEIPT ACKNOWLEDGED

FORM PTO-1595
(Rev. 6-93)
OMB No. 0651-0011 (exp. 4/94)

100450300

EET

To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.

1. Name of conveying parties:

Ryusuke Hasegawa, John Silgailis and Donald Allen
Grimes

Additional name(s) & party(ies) attached?

 Yes No

3. Nature of conveyance:

Assignment Merger

Security Agreement Change of Name

Other _____

Execution Date: June 26, 1996

2. Name and address of receiving party(ies):

Name: AlliedSignal Inc.Internal Address: P.O. Box 2245

Street Address:

101 Columbia RoadCity: Morristown, State: NJ Zip: 07962Additional name(s) & address(es) attached? Yes No4. Application number(s) or patent number(s): 30-4016(4710)If this document is being filed together with a new application, the execution date of the application is: June 26, 1997

A. Patent Application No.(s)

60/004,815, Filed October 5, 1995

B. Patent No.(s)

Additional numbers attached?

 Yes No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: Ernest D. BuffInternal Address: P.O. Box 2245

6. Total number of applications and patents involved:

17. Total fee (37 CFR 3.41)\$ 40.00
 Enclosed

 Authorized to be charged to deposit account

8. Deposit account number:

01-1125

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9. Statement and signature: 50004315
 To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

Ernest D. Buff

June 18, 1997

Name of Person Signing

Signature

Date

Total number of pages including cover sheet, attachments, and document:

3

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 Commissioner of Patents and Trademarks, Box Assignments
 Washington, D.C. 20231

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985M PTO-4595
(Rev. 6-93)
GPO: No. 0851-0011 (exp. 4/94)

RECORDATION FORM COVER SHEET
PATENTS ONLY

09-30-1996



100282135

To the Honorable Commissioner of Patents and Trademarks: Please record the

1. Name of conveying parties:

Ryusuke Hasegawa, John Silgailis and Donald Allen Grimes

Additional name(s) & party(ies) attached?

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60/004,815, filed October 5, 1995

B. Patent No.(s)

808 U.S. PTO

09/26/96

Additional numbers attached?

Yes No

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Name: Ernest D. Buff

Internal Address: P.O. Box 2245

Street Address:

101 Columbia Road

City: Morristown, State: NJ Zip: 07962

6. Total number of applications and patents involved:

1

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To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

Ernest D. Buff

Name of Person Signing

Total number of pages including cover sheet, attachments, and document: 3

Signature 250 TC 01-1125 9/26/96 Date 40.00 Date 40.00
3 40.00

Mail documents to be recorded with required cover sheet information to:

Commissioner of Patents and Trademarks, Box Assignments
Washington, D.C. 20231

ASSIGNMENT

Assignment before issue of Letters Patent

Allied File 30-4016(4710)

WHEREAS. WE, Ryusuke Hasegawa, John Silgailis and Donald Allen Grimes, residents of Morristown, Cedar Grove and Findley, County of Morris, Essex and Hancock, State of New Jersey, New Jersey and Ohio, respectively.

(hereinafter "Assignor") have invented certain new and useful improvements in
MAGNETIC CORE-COIL ASSEMBLY FOR SPARK IGNITION SYSTEMS

(hereinafter "invention") for which Assignor is making or has made application for LETTERS PATENT OF THE UNITED STATES, which application has been duly executed by Assignor on

The day(s) and date(s) of these present

AND WHEREAS, AlliedSignal Inc., a corporation organized and existing under the laws of the State of Delaware, U.S.A., having a place of business at 101 Columbia Road, Morris Township, Morris County, New Jersey, U.S.A., hereinafter called the Assignee, is desirous of acquiring the entire right, title and interest in and to said invention within the United States of America and its territorial possessions and all foreign countries and any United States or foreign LETTERS PATENT that may be granted therefor.

NOW, THIS INDENTURE WITNESSETH, that for good and valuable considerations, the receipt whereof is hereby acknowledged, Assignor has assigned, sold and transferred, and does hereby assign, sell and transfer to the said Assignee the entire right, title and interest in and to the said invention, within the United States of America and its territorial possessions and all foreign countries and in and to any LETTERS PATENT of the United States and foreign countries, including utility models, inventor's certificates and like government grants, and all divisions, reissues, continuations and extensions thereof that may be granted therefor, and the right to apply for LETTERS PATENT in foreign countries with full benefit of such priorities as may now or hereafter be granted to Assignor by local laws or by treaty, including any international convention, for the protection of industrial property, together with the right to extend the protection of said U.S. LETTERS PATENT to the various territorial possessions now owned or which may be hereafter acquired by the United States of America, all said rights to be held and enjoyed by the Assignee for its own use and benefit, and for the use and benefit of its successors or assigns, to the full end of the term for which said LETTERS PATENT may be granted, as fully and entirely as the same would have been held and enjoyed by Assignor if this assignment and sale had not been made. And Assignor does hereby request and authorize the Commissioner of Patents and Trademarks, U.S.A., to issue said U.S. LETTERS PATENT, when granted, in accordance with this assignment.

Assignor further covenants and agrees with the Assignee that Assignor has a full and unencumbered title to the invention hereby assigned, which title Assignor warrants unto the Assignee, and Assignor further agrees that Assignor will, without demanding any further consideration therefor, at the request but at the expense of the Assignee, do all lawful and just acts, including the execution and acknowledgment of instruments, that may be or become necessary for obtaining, sustaining, extending, reissuing or reexamining United States and foreign LETTERS PATENT or the like for the said invention, and for maintaining and perfecting the Assignee's right to said invention and LETTERS PATENT particularly in cases of interference, conflict, opposition and litigation.

IN TESTIMONY WHEREOF, I have hereunto set my hand this 19 day of June, 19 96

Ryusuke Hasegawa
Ryusuke Hasegawa

IN TESTIMONY WHEREOF, I have hereunto set my hand this 19 day of June, 19 96

John Silgailis
John Silgailis

IN TESTIMONY WHEREOF, I have hereunto set my hand this 26 day of June, 19 96

Donald Allen Grimes
Donald Allen Grimes

STATE OF New Jersey)
COUNTY OF Morris) ss.

On this 19th day of June, 19 96 before me personally appeared
Ryusuke Hasegawa

to me known and known to me to be the individual _____ described in and who executed the foregoing instrument.
and _____ he _____ acknowledged to me that _____ he _____ executed the same.

[SEAL]

Ivy L. Abraham
IVY L. ABRAHAM Notary Public

My commission expires: A NOTARY PUBLIC OF NEW JERSEY

My Commission Expires April 1, 2001

STATE OF New Jersey)
COUNTY OF Morris) ss.

On this 19th day of June, 19 96 before me personally appeared
John Silgailis

to me known and known to me to be the individual _____ described in and who executed the foregoing instrument.
and _____ he _____ acknowledged to me that _____ he _____ executed the same.

[SEAL]

Ivy L. Abraham
IVY L. ABRAHAM Notary Public

My commission expires: A NOTARY PUBLIC OF NEW JERSEY

My Commission Expires April 1, 2004

STATE OF Ohio)
COUNTY OF Hancock) ss.

On this 26th day of June, 19 96 before me personally appeared
Donald Allen Grimes

to me known and known to me to be the individual _____ described in and who executed the foregoing instrument.
and _____ he _____ acknowledged to me that _____ he _____ executed the same.

[SEAL]

Deborah A. Kinsman
DEBORAH A. KINSMAN Notary Public

My commission expires: DEBORAH A. KINSMAN

Notary Public, State of Ohio
My Commission Expires 4/23/99

Assignment

Ryusuke Hasegawa, John Silgailis and
Donald Allen Grimes

TO
ALLIEDSIGNAL INC.

INVENTION:

MAGNETIC CORE-COIL ASSEMBLY
FOR SPARK IGNITION SYSTEMS

Allied File: 30-4016(4710)

Ernest D. Buff
AlliedSignal Inc.
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201-455-3445